

Claims

1. A method of treating selected parts of paint ball markers, comprising the step of applying a solid lubricant to those surfaces of selected working parts of a paint ball marker that are exposed to relative motion with another working part or with a paint ball projectile.
2. The method of claim 1 and further including a step of hardening said selected parts before the step of applying said solid lubricant to said surfaces.
3. The method of claim 1 where the selected items of the working parts are coated with a material selected from a class consisting of metals, chemicals, ceramics, elements, graphite and polymers excluding lubricious properties.
4. The method of claim 3 wherein the metals include one of nickel, silver, zinc, copper, molybdenum and alloys thereof.
5. The method of claim 3 wherein the polymers include silicone, ptfe, uhmw polyethylene and other fluoropolymers.
6. The method of claim 1 wherein the solid lubricant comprises a thin film coating incorporating particles selected from a group consisting of molybdenum disulfide, graphite, silicone, carbon and fluoropolymers.
7. The method of claim 1 and further including the steps of:
 - (a) cleaning said surfaces with one of an alkaline and acid bath to remove any contaminants therefrom;
 - (b) rinsing said surfaces free of the alkaline or acid bath; and
 - (c) chemically etching said surface prior to applying the solid lubricant to said surfaces.

8. The method as in claim 6 wherein the surfaces are aluminum and the permanent lubricant is nickel.

9. The method as in claim 7 and further including a step of pretreating the aluminum surfaces with a zincate solution and hard anodizing the surfaces following the chemical etching step and prior to applying the solid lubricant.

10. The process for treating working parts of a paint ball marker comprising hardening mating surfaces of said working parts; and applying a solid lubricant to said mating surface.

11. The process as in claim 1 wherein one such mating surface comprises moving parts of a solenoid valve.

12. The method of claim 1 wherein said application of the solid lubricant comprises subjecting the selected parts to an aerosol spray.

13. The method of claim 1 wherein said application of the solid lubricant is by one of wicking, wiping, brushing, dipping, coating and immersion.

14. The method of claim 1 wherein said application of solid lubricant is by one of air-less spraying, air-assisted spraying, air brushing, and spray pumping.